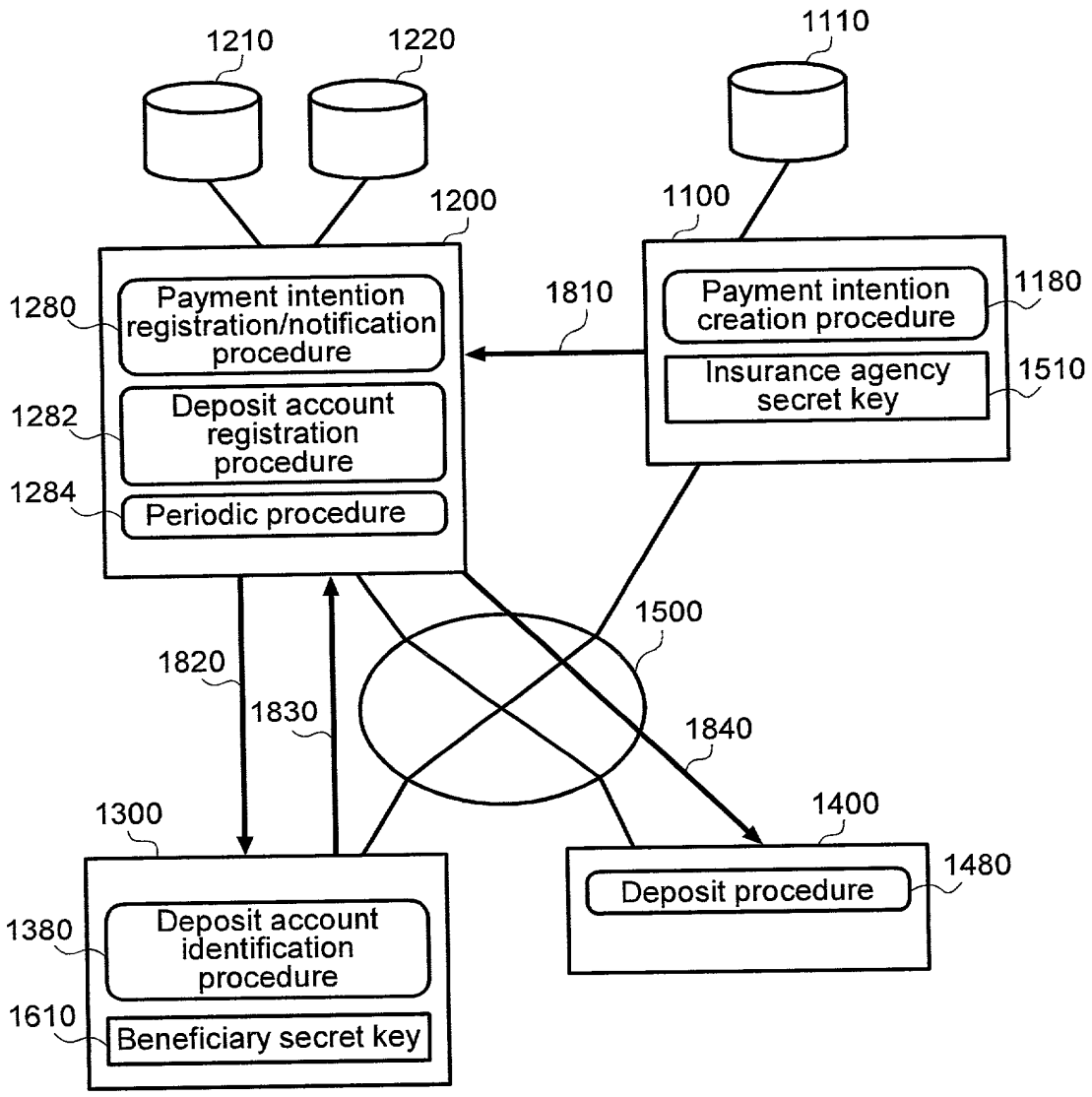
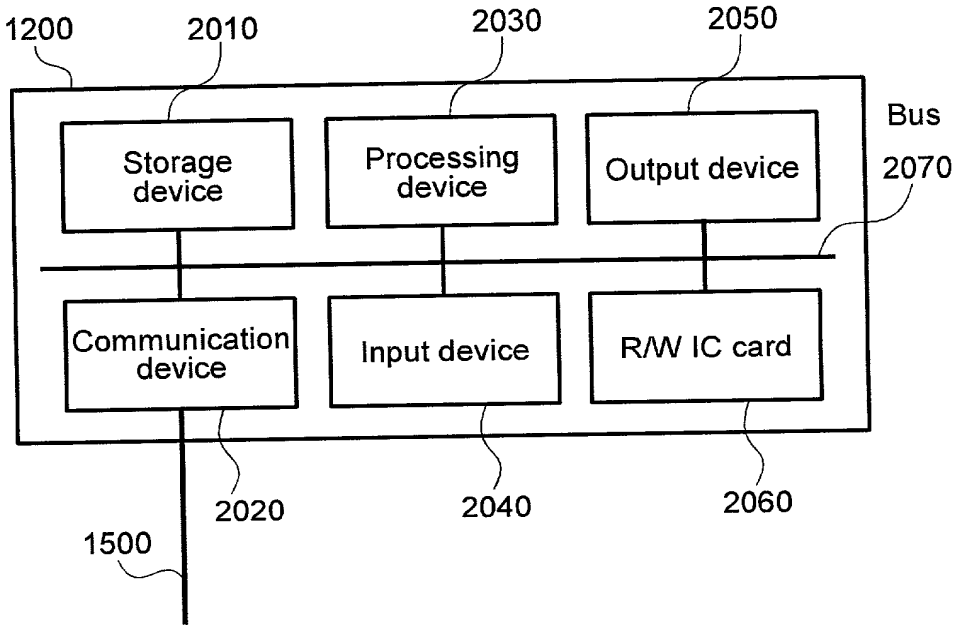
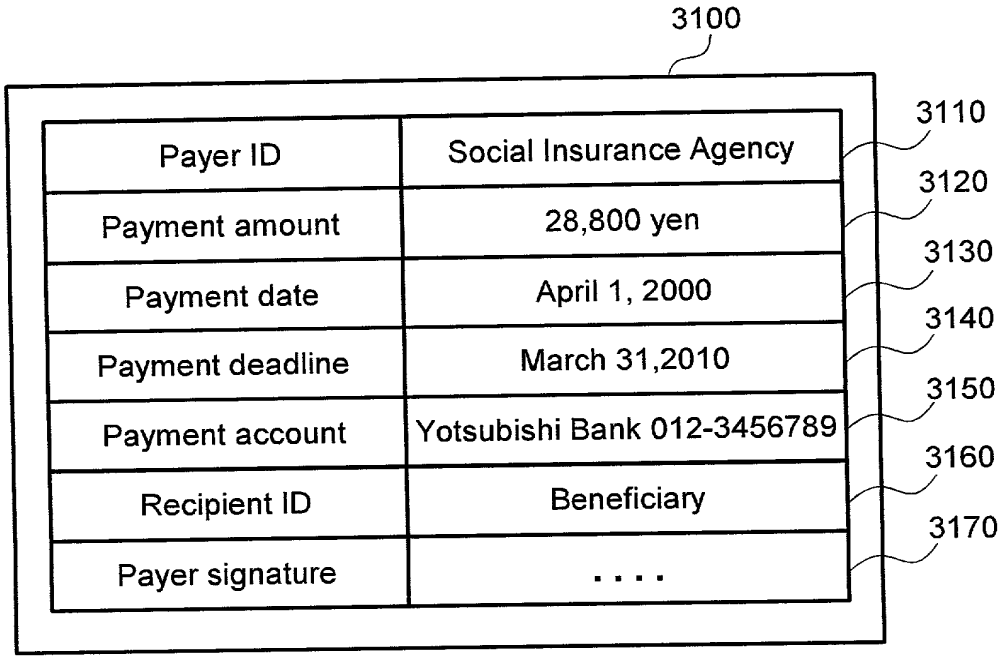
# FIG.1


1210
1220
1110
1200
1100
1280
Payment intention registration/notification procedure
1810
Payment intention creation procedure
1180
1282
Deposit account registration procedure
Insurance agency secret key
1510
1284
Periodic procedure
1500
1820
1830
1840
1300
1400
1480
Deposit procedure
1380
Deposit account identification procedure
1610
Beneficiary secret key

# FIG.2

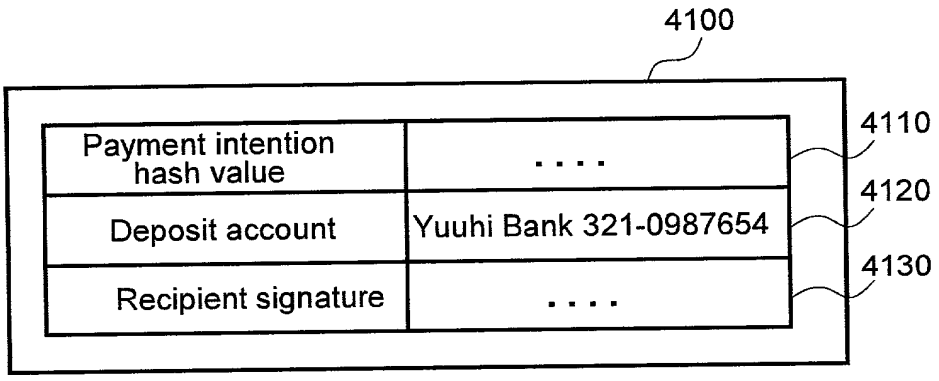



# FIG.3

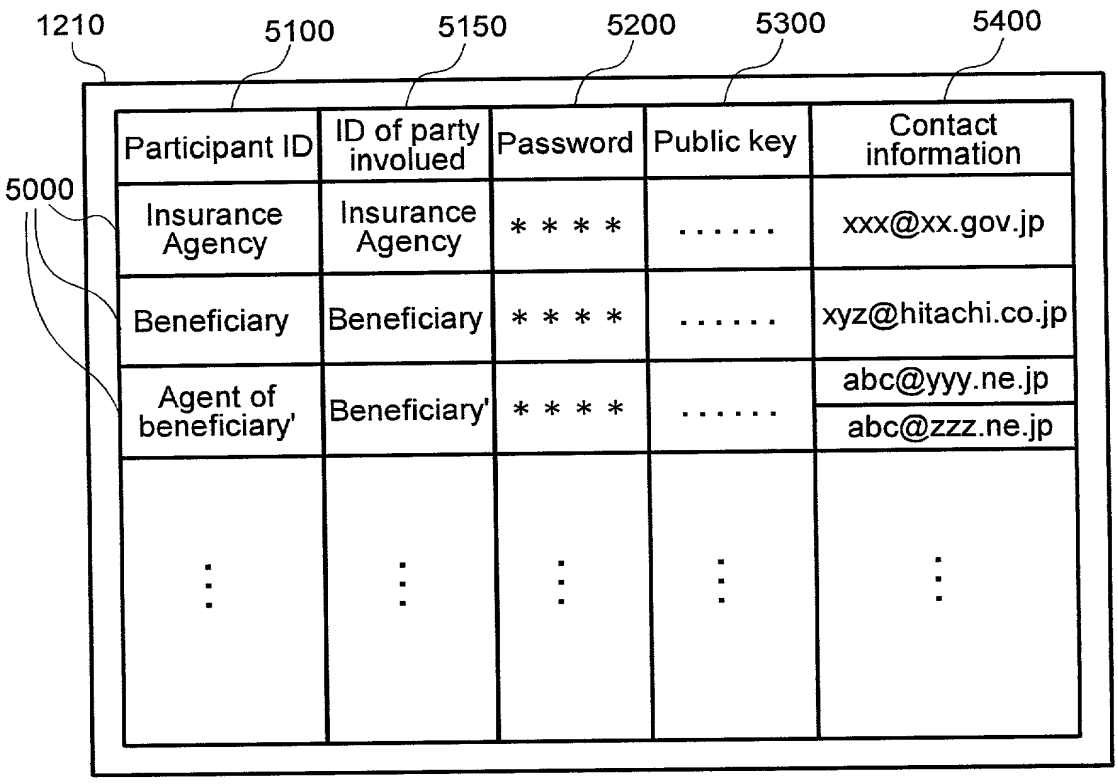



| | |
|---|---|
| Payer ID | Social Insurance Agency |
| Payment amount | 28,800 yen |
| Payment date | April 1, 2000 |
| Payment deadline | March 31,2010 |
| Payment account | Yotsubishi Bank 012-3456789 |
| Recipient ID | Beneficiary |
| Payer signature | . . . . |

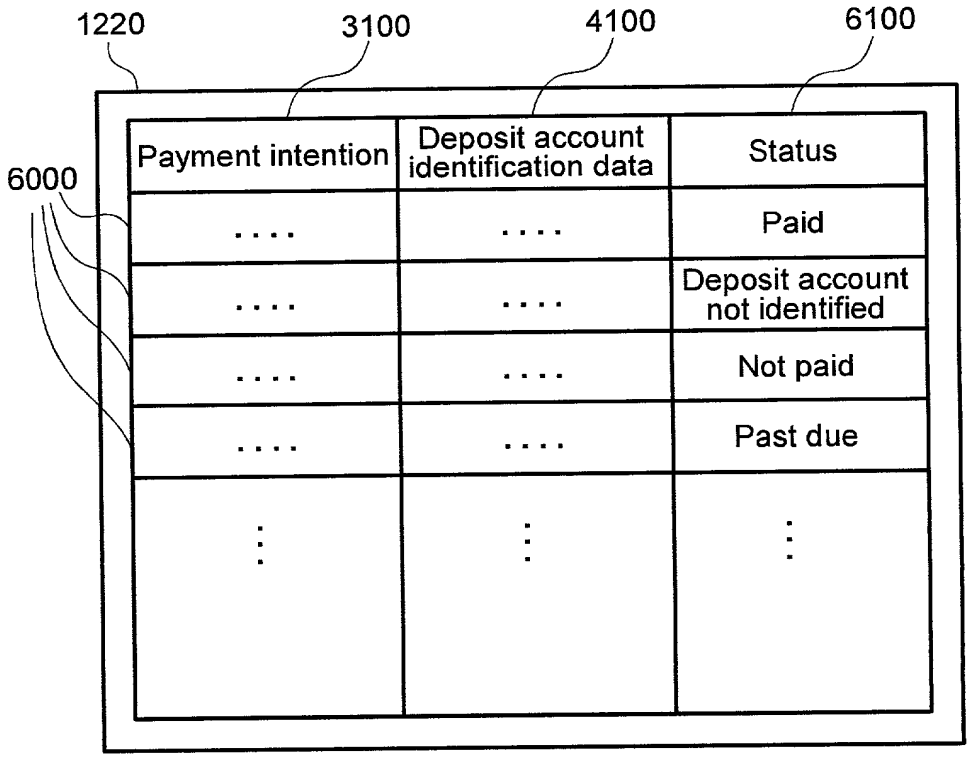
# FIG.4


4100
Payment intention hash value
. . . .
4110
Deposit account
Yuuhi Bank 321-0987654
4120
Recipient signature
. . . .
4130

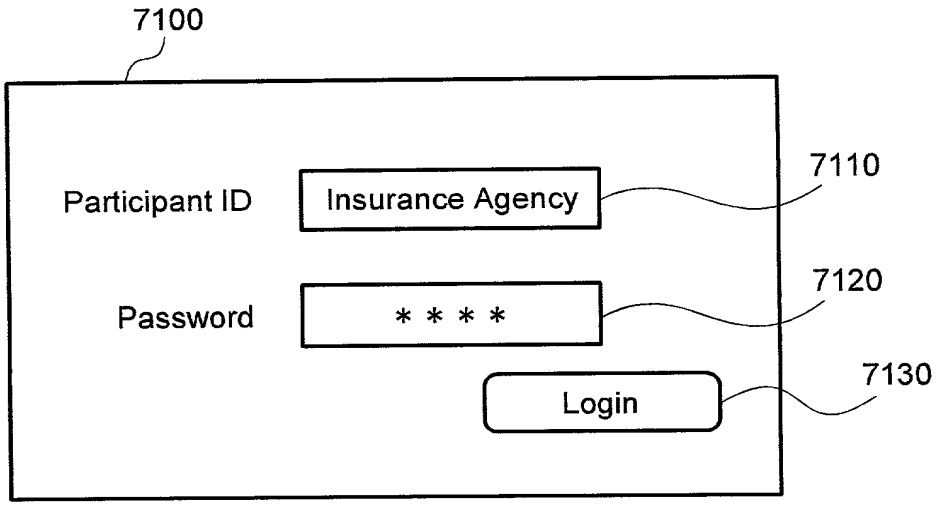
# FIG.5


1210
5100
5150
5200
5300
5400
5000
Participant ID
ID of party involued
Password
Public key
Contact information
Insurance Agency
Insurance Agency
* * * *
. . . . . .
xxx@xx.gov.jp
Beneficiary
Beneficiary
* * * *
. . . . . .
xyz@hitachi.co.jp
Agent of beneficiary'
Beneficiary'
* * * *
. . . . . .
abc@yyy.ne.jp
abc@zzz.ne.jp

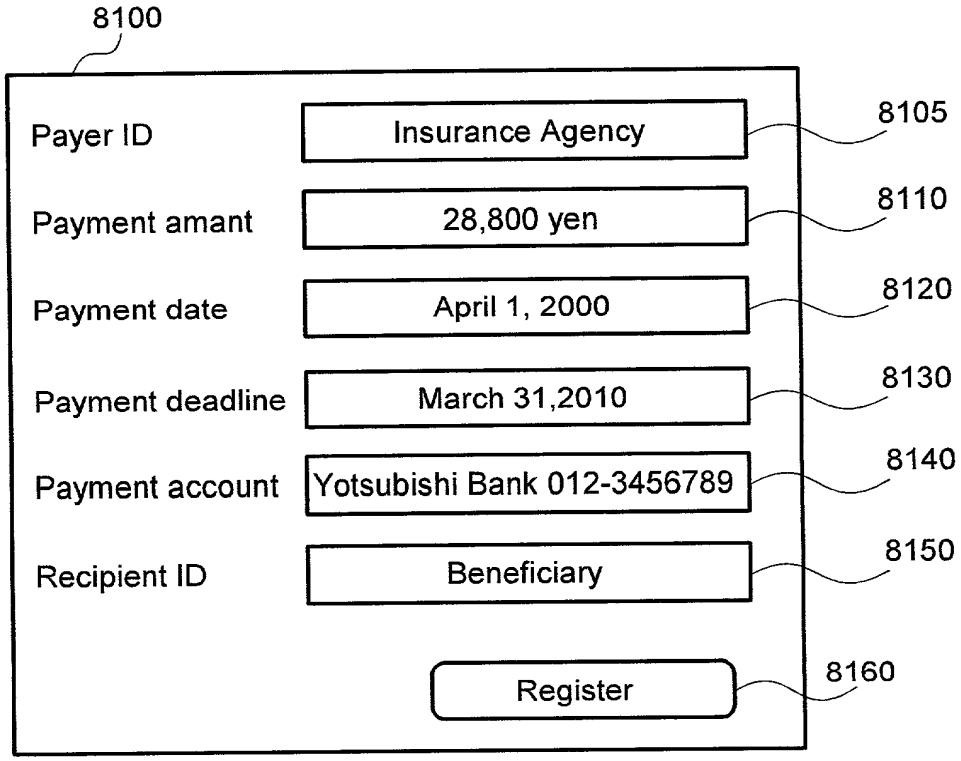
# FIG.6


1220
3100
4100
6100
6000
Payment intention
Deposit account identification data
Status
Paid
Deposit account not identified
Not paid
Past due

# FIG.7


7100
Participant ID
Insurance Agency
7110
Password
* * * *
7120
Login
7130

# FIG.8


8100
Payer ID
Insurance Agency
8105
Payment amant
28,800 yen
8110
Payment date
April 1, 2000
8120
Payment deadline
March 31,2010
8130
Payment account
Yotsubishi Bank 012-3456789
8140
Recipient ID
Beneficiary
8150
Register
8160

# FIG.9

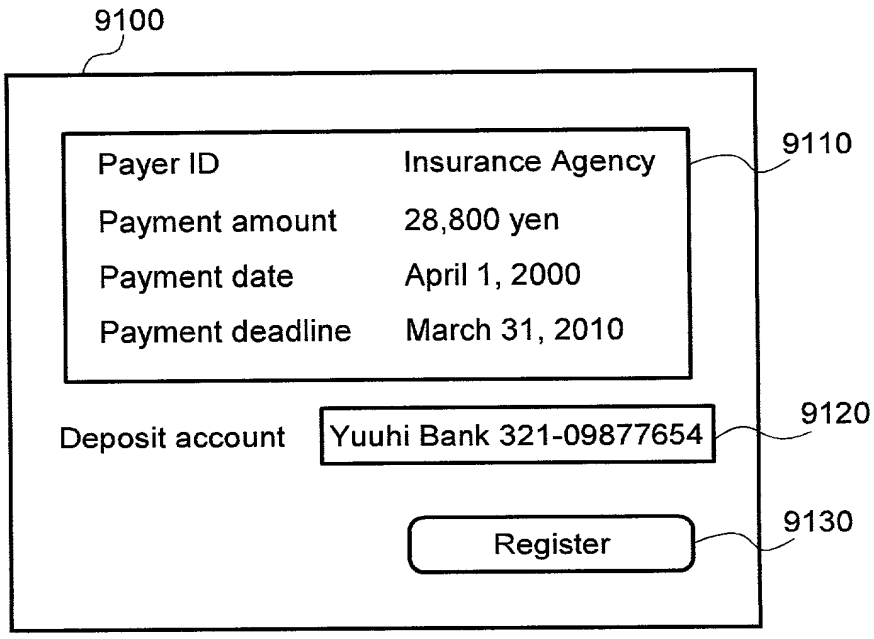
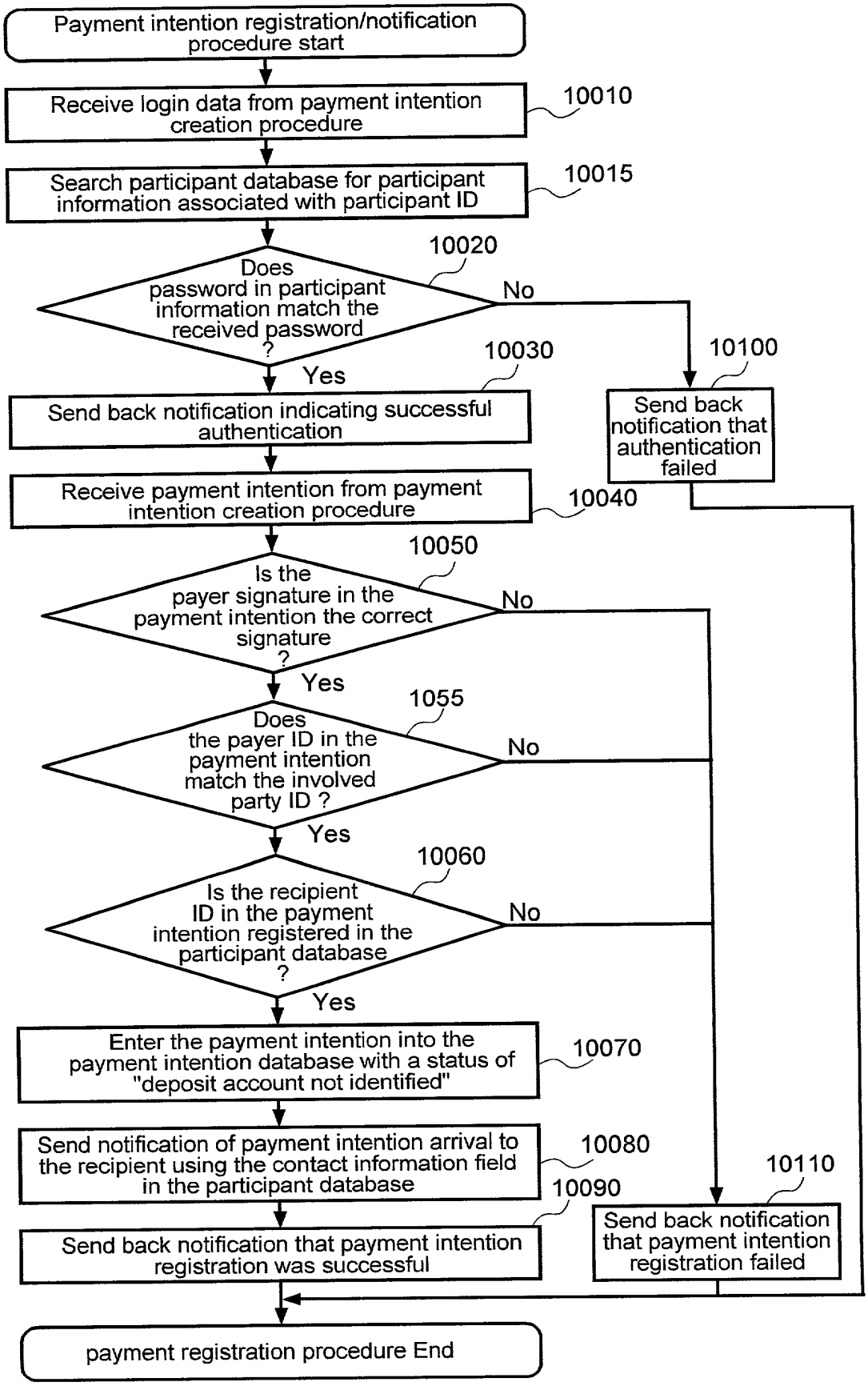
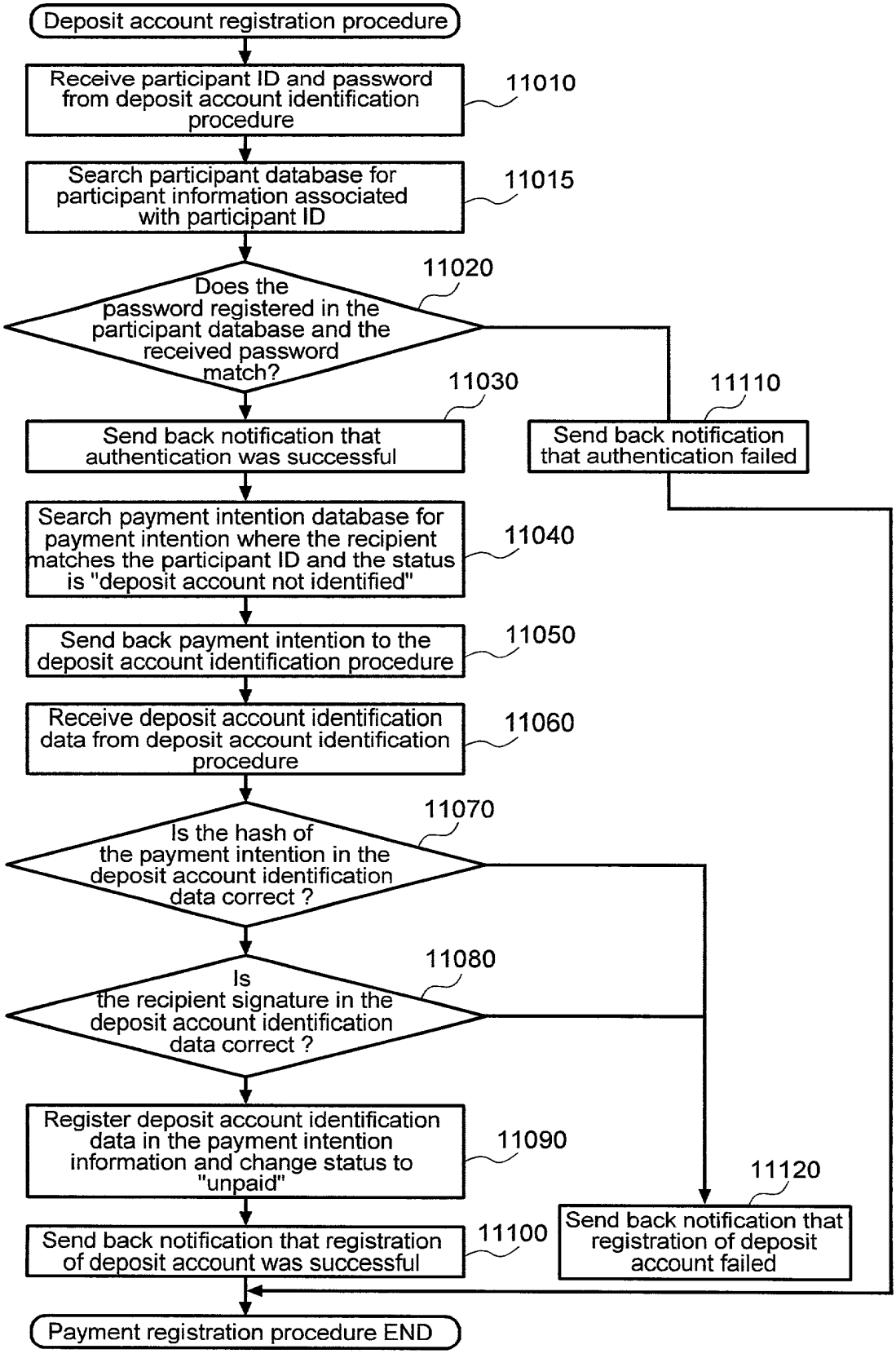

9100
Payer ID
Insurance Agency
Payment amount
28,800 yen
Payment date
April 1, 2000
Payment deadline
March 31, 2010
9110
Deposit account
Yuuhi Bank 321-09877654
9120
Register
9130

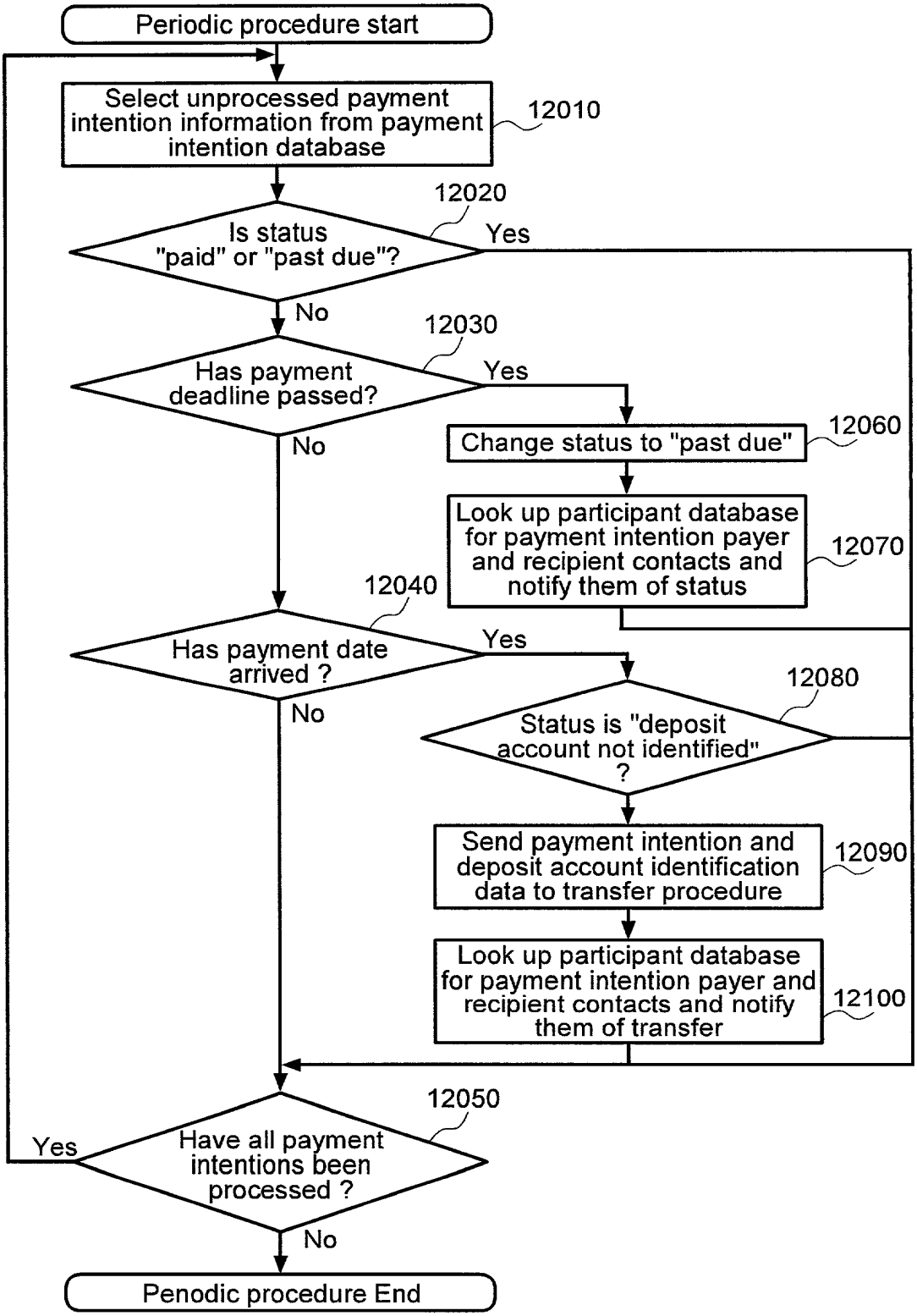
FIG.10


Payment intention registration/notification procedure start
Receive login data from payment intention creation procedure
10010
Search participant database for participant information associated with participant ID
10015
10020
Does password in participant information match the received password ?
No
Yes
10030
Send back notification indicating successful authentication
10100
Send back notification that authentication failed
Receive payment intention from payment intention creation procedure
10040
10050
Is the payer signature in the payment intention the correct signature ?
No
Yes
1055
Does the payer ID in the payment intention match the involved party ID ?
No
Yes
10060
Is the recipient ID in the payment intention registered in the participant database ?
No
Yes
Enter the payment intention into the payment intention database with a status of "deposit account not identified"
10070
Send notification of payment intention arrival to the recipient using the contact information field in the participant database
10080
10090
Send back notification that payment intention registration was successful
10110
Send back notification that payment intention registration failed
payment registration procedure End

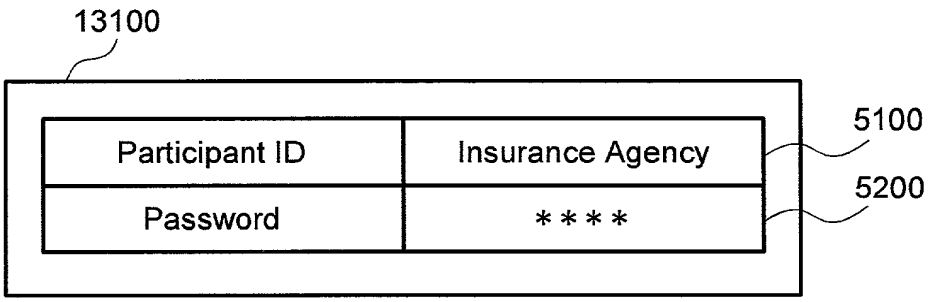
# FIG.11


Deposit account registration procedure
Receive participant ID and password from deposit account identification procedure
11010
Search participant database for participant information associated with participant ID
11015
Does the password registered in the participant database and the received password match?
11020
Send back notification that authentication was successful
11030
Send back notification that authentication failed
11110
Search payment intention database for payment intention where the recipient matches the participant ID and the status is "deposit account not identified"
11040
Send back payment intention to the deposit account identification procedure
11050
Receive deposit account identification data from deposit account identification procedure
11060
Is the hash of the payment intention in the deposit account identification data correct ?
11070
Is the recipient signature in the deposit account identification data correct ?
11080
Register deposit account identification data in the payment intention information and change status to "unpaid"
11090
Send back notification that registration of deposit account was successful
11100
Send back notification that registration of deposit account failed
11120
Payment registration procedure END

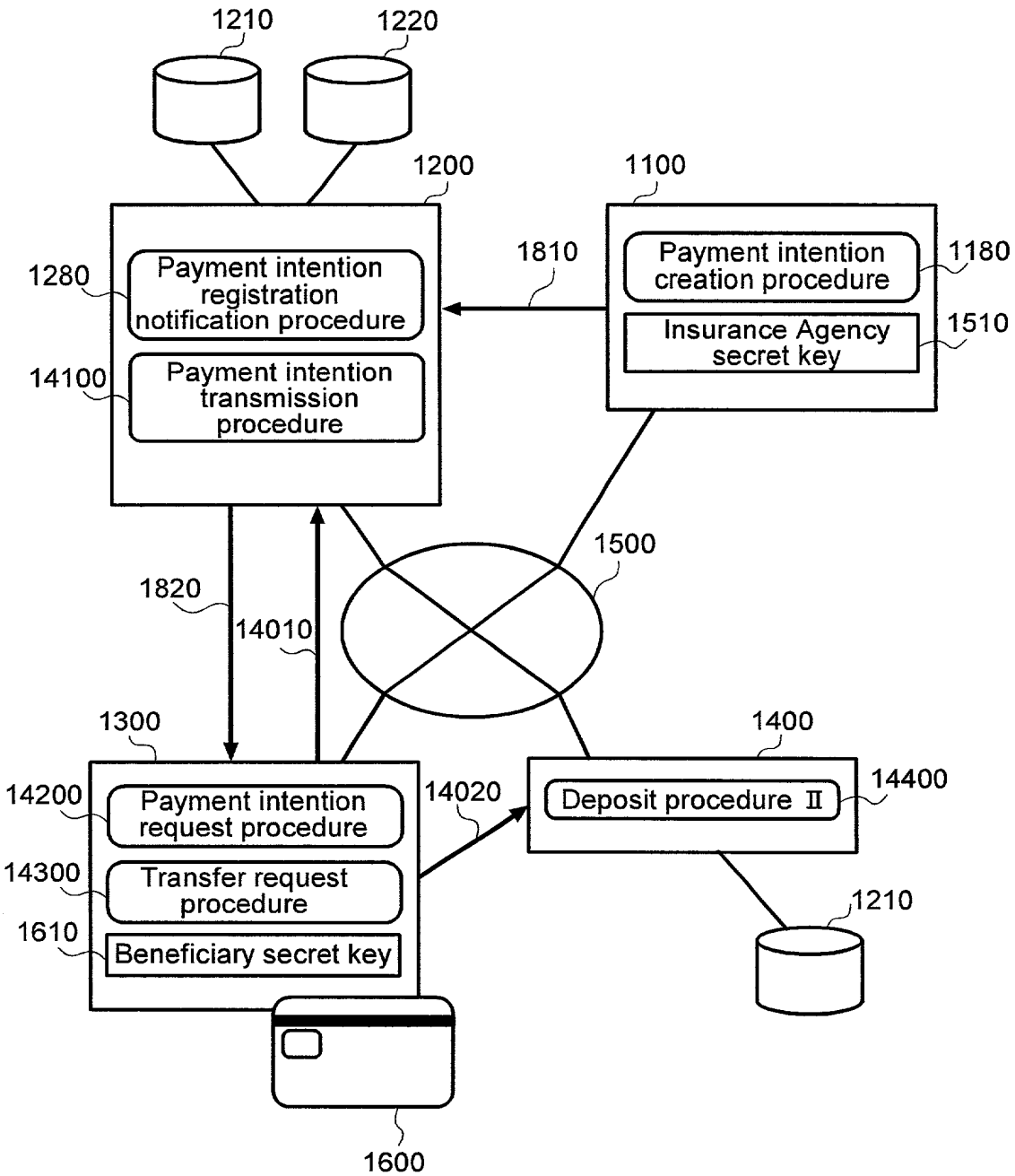
# FIG.12


Periodic procedure start
Select unprocessed payment intention information from payment intention database
12010
12020
Is status "paid" or "past due"?
Yes
No
12030
Has payment deadline passed?
Yes
No
Change status to "past due"
12060
Look up participant database for payment intention payer and recipient contacts and notify them of status
12070
12040
Has payment date arrived ?
Yes
No
12080
Status is "deposit account not identified" ?
Send payment intention and deposit account identification data to transfer procedure
12090
Look up participant database for payment intention payer and recipient contacts and notify them of transfer
12100
12050
Have all payment intentions been processed ?
Yes
No
Penodic procedure End

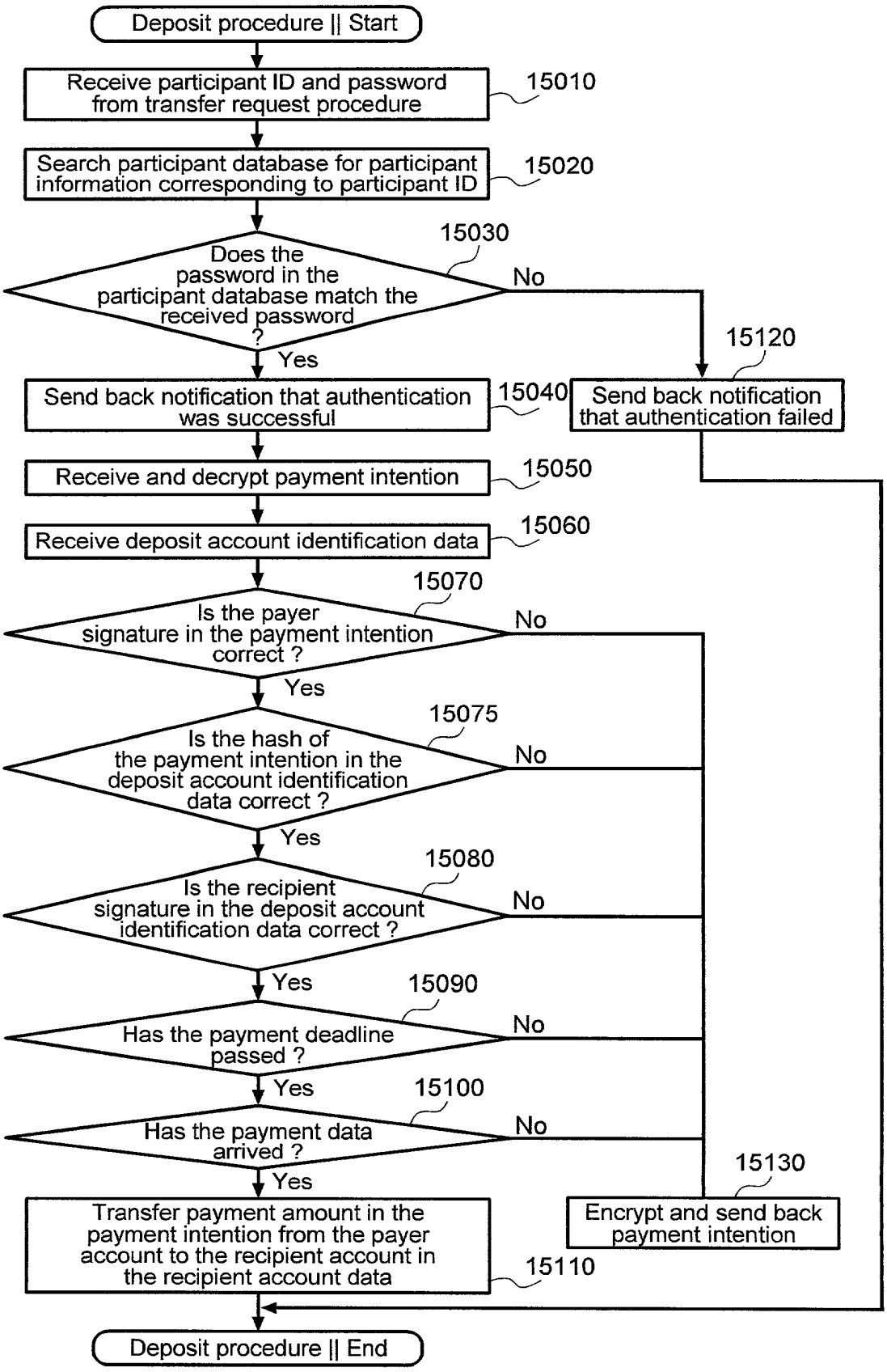
# FIG.13



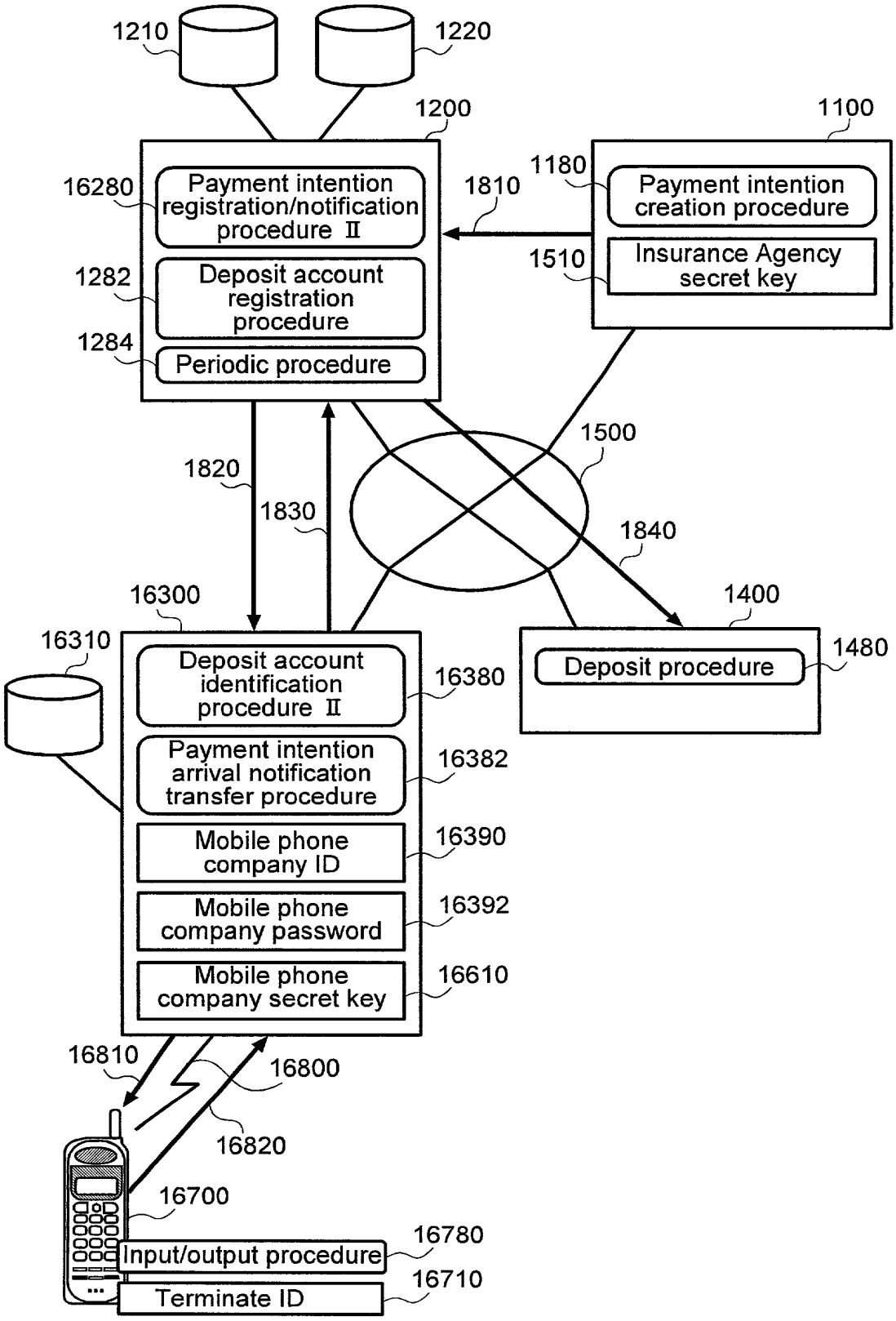
# FIG.14


1210
1220
1200
1100
1280
Payment intention registration notification procedure
1810
Payment intention creation procedure
1180
Insurance Agency secret key
1510
14100
Payment intention transmission procedure
1500
1820
14010
1300
1400
14200
Payment intention request procedure
14020
Deposit procedure Ⅱ
14400
14300
Transfer request procedure
1610
Beneficiary secret key
1210
1600

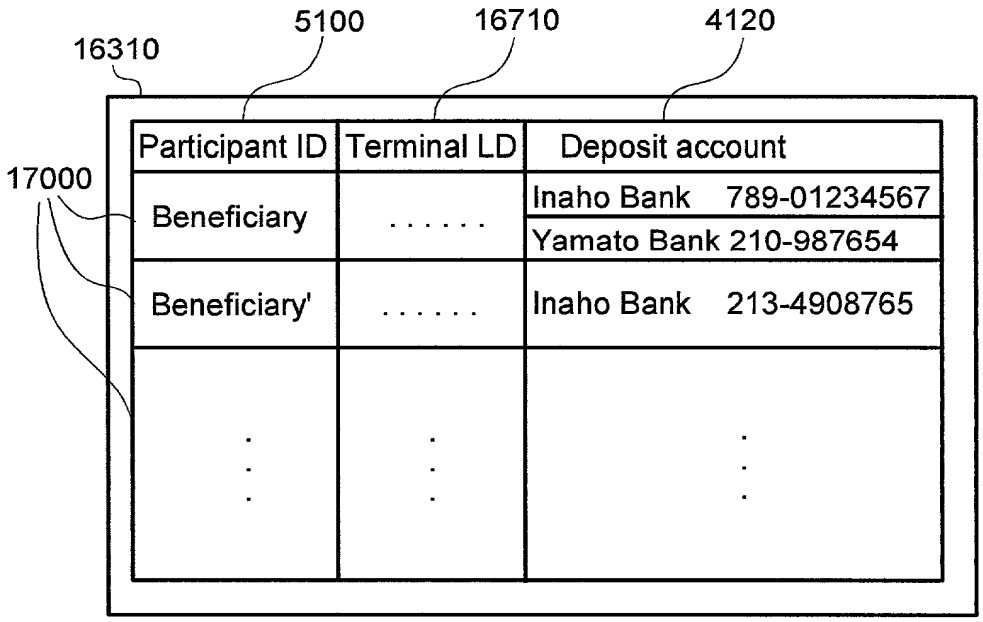
# FIG.15


Deposit procedure || Start
Receive participant ID and password from transfer request procedure
15010
Search participant database for participant information corresponding to participant ID
15020
15030
Does the password in the participant database match the received password ?
No
Yes
15120
Send back notification that authentication was successful
15040
Send back notification that authentication failed
Receive and decrypt payment intention
15050
Receive deposit account identification data
15060
15070
Is the payer signature in the payment intention correct ?
No
Yes
15075
Is the hash of the payment intention in the deposit account identification data correct ?
No
Yes
15080
Is the recipient signature in the deposit account identification data correct ?
No
Yes
15090
Has the payment deadline passed ?
No
Yes
15100
Has the payment data arrived ?
No
Yes
15130
Transfer payment amount in the payment intention from the payer account to the recipient account in the recipient account data
15110
Encrypt and send back payment intention
Deposit procedure || End

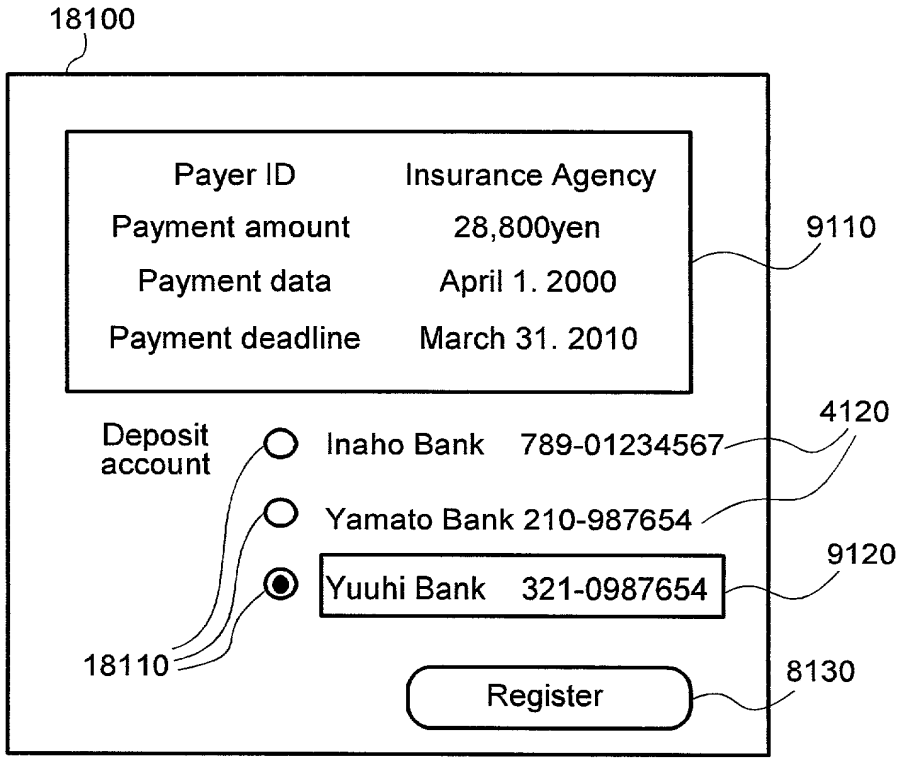
# FIG.16


1210
1220
1200
1100
16280
Payment intention registration/notification procedure II
1810
1180
Payment intention creation procedure
1510
Insurance Agency secret key
1282
Deposit account registration procedure
1284
Periodic procedure
1500
1820
1830
1840
16300
1400
16310
Deposit account identification procedure II
16380
Deposit procedure
1480
Payment intention arrival notification transfer procedure
16382
Mobile phone company ID
16390
Mobile phone company password
16392
Mobile phone company secret key
16610
16810
16800
16820
16700
16780
Input/output procedure
16710
Terminate ID

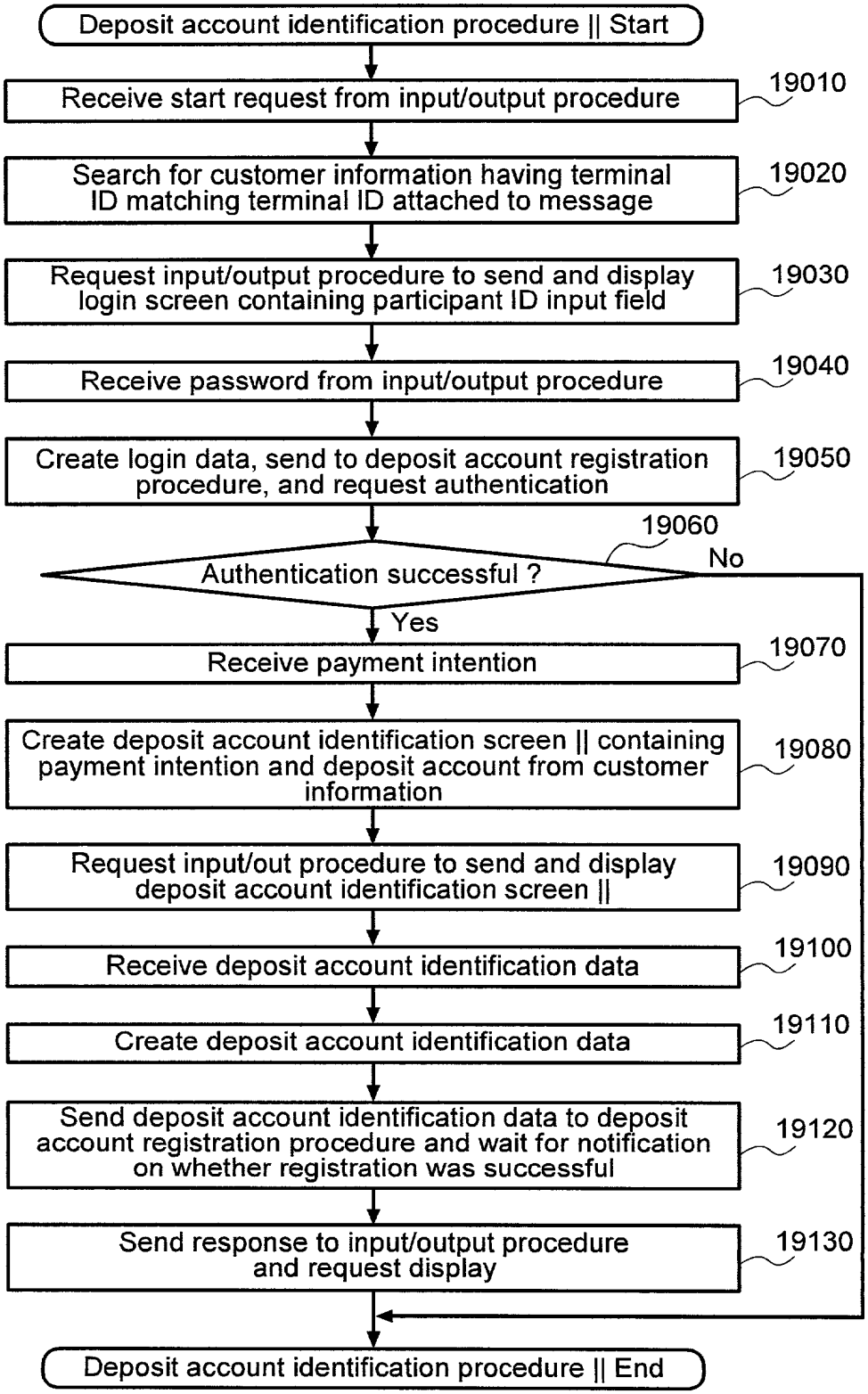
# FIG.17


16310
5100
16710
4120
17000
Participant ID
Terminal LD
Deposit account
Beneficiary
. . . . . .
Inaho Bank 789-01234567
Yamato Bank 210-987654
Beneficiary'
. . . . . .
Inaho Bank 213-4908765

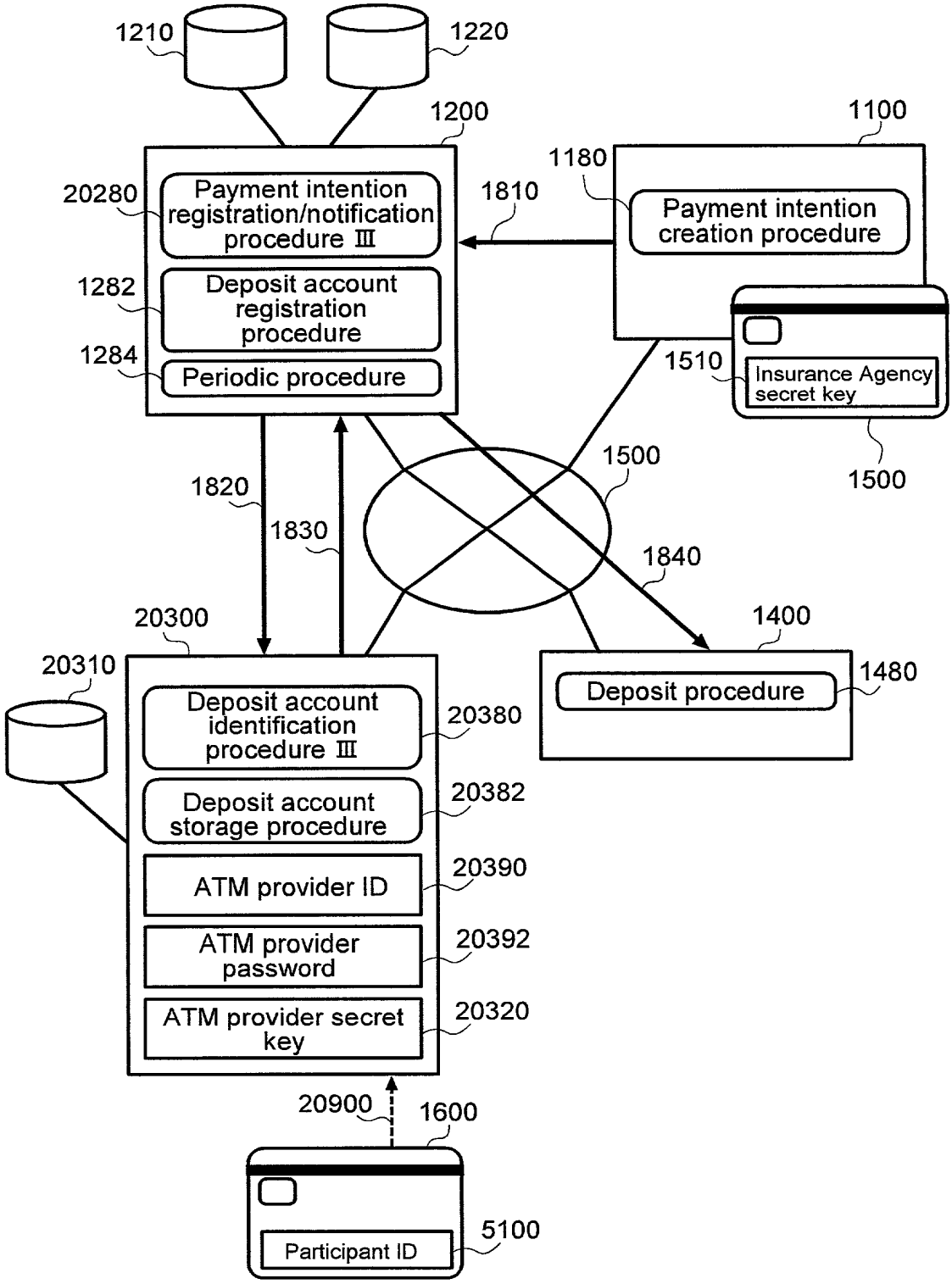
# FIG.18


18100
Payer ID
Insurance Agency
Payment amount
28,800yen
Payment data
April 1. 2000
Payment deadline
March 31. 2010
9110
Deposit account
Inaho Bank 789-01234567
4120
Yamato Bank 210-987654
Yuuhi Bank 321-0987654
9120
18110
Register
8130

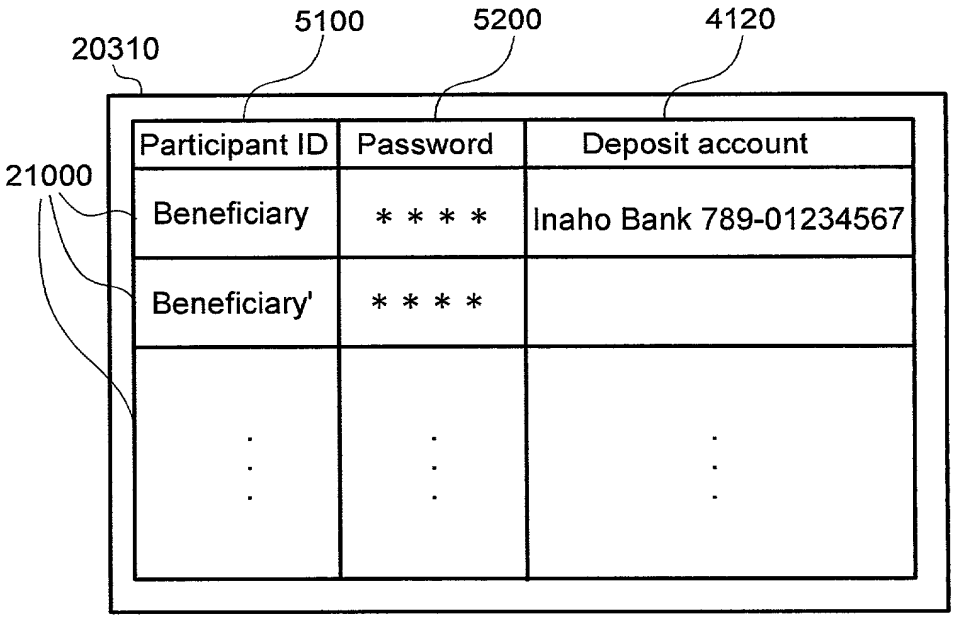
# FIG.19


Deposit account identification procedure || Start
Receive start request from input/output procedure
19010
Search for customer information having terminal ID matching terminal ID attached to message
19020
Request input/output procedure to send and display login screen containing participant ID input field
19030
Receive password from input/output procedure
19040
Create login data, send to deposit account registration procedure, and request authentication
19050
19060
Authentication successful ?
No
Yes
Receive payment intention
19070
Create deposit account identification screen || containing payment intention and deposit account from customer information
19080
Request input/out procedure to send and display deposit account identification screen ||
19090
Receive deposit account identification data
19100
Create deposit account identification data
19110
Send deposit account identification data to deposit account registration procedure and wait for notification on whether registration was successful
19120
Send response to input/output procedure and request display
19130
Deposit account identification procedure || End

# FIG.20


1210
1220
1200
1100
1180
20280
Payment intention registration/notification procedure III
1810
Payment intention creation procedure
1282
Deposit account registration procedure
1284
Periodic procedure
1510
Insurance Agency secret key
1500
1500
1820
1830
1840
20300
1400
20310
Deposit account identification procedure III
20380
Deposit procedure
1480
Deposit account storage procedure
20382
ATM provider ID
20390
ATM provider password
20392
ATM provider secret key
20320
20900
1600
Participant ID
5100

# FIG.21


20310
5100
5200
4120
21000
Participant ID
Password
Deposit account
Beneficiary
* * * *
Inaho Bank 789-01234567
Beneficiary'
* * * *